

ABSTRACT

A focus type longitudinal wave ultrasonic probe for polymer material inspection comprising a curved piezoelectric element, and a matching material having an input end surface in close contact with a concave surface of said curved piezoelectric element, and an output end surface for fitting to a surface of a polymer material acting as a test object, wherein said matching material has acoustic impedance matched to acoustic impedance of said test object, or said matching material has acoustic impedance matched to acoustic impedance of said curved piezoelectric element, or both. A flaw evaluating apparatus for an ultrasonic flaw detecting apparatus having two gate circuits, and evaluating circuits connected thereto, respectively, in order to achieve an ultrasonic flaw detection taking complicated reflection echoes and sound velocity variations into account.